



# smart jabs

IN SINGAPORE, ALL CHILDREN RECEIVE A SERIES OF STANDARD VACCINATIONS. BUT ADDITIONAL ONES ARE AVAILABLE TO PREVENT OTHER DISEASES. KEITH G. EMUANG FINDS OUT WHAT THEY ARE.



healthy baby special

**U**nder the well-established childhood immunisation programme, children here are vaccinated against diphtheria, pertussis (whooping cough), tetanus, poliomyelitis, tuberculosis, mumps, measles, rubella and hepatitis B.

Such vaccines introduce inactivated or weakened bacteria or viruses to trigger the production of antibodies to fight against disease-causing micro-organisms. In doing so, a child's immature immune system is given a boost that helps him fight against certain illnesses.

For diseases not covered under the national programme, parents can consider optional vaccinations. Dr Anita Menon, a consultant at the department of paediatric medicine at KK Women's & Children's Hospital, helps outline what is available, with additional input from Dr Irene Chan, a consultant paediatrician from iKids Paediatric Practice at Pacific Healthcare.

#### HEPATITIS A

**WHAT IT DOES:** This affects the liver and causes fever, fatigue, jaundice, loss of appetite, severe stomach pains, diarrhoea and nausea.  
**CAUSES:** The virus is found in the stools of an infected person and transmitted through contaminated food and water, or through contact with an infected person.

**THE VACCINE:** It is given in two doses (six to 12 months apart) to children who are aged 12 months or older. It costs \$50 to \$64.

**WHO NEEDS IT:** Children travelling to countries with high rates of hepatitis A infection, those with chronic liver disease, and those with clotting-factor disorders who are receiving treatment (such as patients suffering from haemophilia).

**SIDE EFFECTS:** Some may experience soreness at the site of injection.  
**EXPERT ADVICE:** Dr Menon says that since the majority of our population is non-immune, we are at risk if exposed to the virus when travelling to places with high rates of hepatitis A infection.

#### CHICKENPOX

**WHAT IT DOES:** The varicella-zoster virus causes small, red and itchy blisters on the face and body, as well as runny nose, cough and mild fever. It can potentially result in a secondary bacterial super-infection that leads to skin lesions, pneumonia and brain-related problems.

**CAUSES:** This highly contagious disease, more common in children, is spread by direct contact or by breathing in the virus that is released when an infected person coughs or sneezes.

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**THE VACCINE:** The varicella vaccine costs \$53 to \$65. According to the Health Promotion Board, children below 13 years of age receive one dose. Those who are older are given two doses, four to eight weeks apart.

**WHO NEEDS IT:** All children aged 12 to 18 months, as well as non-immune children living in the same household with others who have lowered immunity and no history of chickenpox.

**SIDE EFFECTS:** Soreness and swelling at the site of injection, with a mild rash occasionally.

**EXPERT ADVICE:** Dr Menon says the vaccine is recommended because of the risk of serious complications that can result from secondary bacterial infection.

#### INFLUENZA (FLU)

**WHAT IT DOES:** The influenza virus causes fever, headache, fatigue, muscular aches, cough and sore throat, and blocked and runny nose.

**CAUSES:** This highly contagious disease is transmitted when an infected person sneezes or coughs, and is easily spread at home, in schools and at childcare centres.

**THE VACCINE:** The influenza vaccine costs \$17 to \$20. Children between six months to eight years receiving their first flu vaccination need two doses, one month apart. Children over nine require one dose. Annual vaccines are recommended since new strains of the virus emerge yearly.

**WHO NEEDS IT:** Children older than six months of age.

**SIDE EFFECTS:** Pain, redness, swelling and bruising at the injection site are common. Occasionally, a child may feel unwell and tired, as well as have a headache, fever and muscle ache.

**EXPERT ADVICE:** Dr Menon says influenza can sometimes be severe and cause many complications, especially in children who:

- are suffering from chronic illnesses like heart disease, respiratory disease, kidney disease, metabolic disease or blood disorders such as thalassaemia

- are immuno-suppressed, such as HIV patients
- are on long-term aspirin therapy, like those with Kawasaki disease
- live with high-risk family members
- are travelling to temperate countries during winter

Dr Chan points out that getting a flu shot reduces your child's chances of catching the flu, but this is no guarantee that he won't catch a runny nose or cough as these can be caused by one of many other viral infections.



special

## Vaccines boost a child's immature immune system and protect him from infectious diseases.

### PNEUMOCOCCAL DISEASE

**WHAT IT DOES:** A serious infection common in younger children, pneumococcal disease can cause meningitis (infection of the brain lining), pneumonia (lung infection), septicaemia (blood infection) and otitis media (middle-ear infection).

**CAUSES:** Transmission is through sneezing and coughing. The bacteria may live in the upper respiratory tract of some people without causing them any problems.

**THE VACCINE:** The pneumococcal 7-valent conjugate vaccine protects against seven groups of pneumococcus viruses that commonly cause infection. It can be given to infants and young children aged six weeks to nine years old. The number of doses depends on the child's age. Infants may require up to four doses. The cost ranges from \$152 to \$180.

**WHO NEEDS IT:** Infants and young children who have:

- low immunity or chronic disease
- sickle cell disease
- no spleen or a poorly functioning one
- cochlear implants (for deafness)

It can also affect those who go to a daycare centre, as the bacteria can easily spread through close contact.

**SIDE EFFECTS:** Some children may get fever and irritation at the injection site.

**EXPERT ADVICE:** Dr Menon says this vaccine has been shown to decrease the incidence of severe pneumococcal infection. It is part of the routine childhood immunisation schedule in some countries.

### ROTAVIRUS INFECTION

**WHAT IT DOES:** Rotavirus, a highly contagious infection of the digestive tract, is the most common cause of severe dehydrating diarrhoea and vomiting in infants as well as young children.

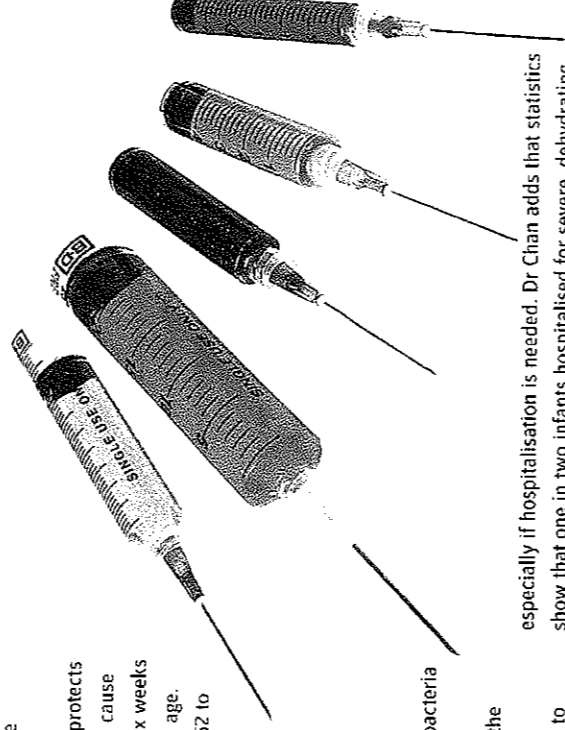
**EFFECTS:** It is transmitted via the faecal-oral route, where the virus is present in the faeces of the infected person and passed to another through contaminated food and water.

**THE VACCINE:** This is a two-dose oral vaccine that costs \$90 to \$96. The first dose is administered between six and 14 weeks of age, while the second is administered between 14 and 24 weeks. The interval between doses should not be less than four weeks. The vaccine should not be given to children with vomiting or diarrhoea, or those with a known or suspected immune deficiency disease or chronic gastrointestinal disease.

**WHO NEEDS IT:** Babies below six months of age and young children attending daycare, as the virus can be easily spread through shared items and surfaces.

**SIDE EFFECTS:** Rare.

**EXPERT ADVICE:** Dr Menon says the vaccine will spare many infants and their parents the distress and discomfort caused by the illness.



especially if hospitalisation is needed. Dr Chan adds that statistics show that one in two infants hospitalised for severe, dehydrating diarrhoea is diagnosed with a rotavirus infection.

### HAEEMOPHILUS INFLUENZAE TYPE B (HIB) INFECTION

**WHAT IT DOES:** It can lead to serious, potentially life-threatening problems, including conditions like pneumonia, epiglottitis (inflammation of part of the windpipe) and bacterial meningitis.

**CAUSES:** It is transmitted through coughing and sneezing.

**THE VACCINE:** There is a six-in-one vaccine that – besides Hib – also protects against diphtheria, pertussis, tetanus, hepatitis B and poliomyelitis. Three doses are recommended at two, four and six months of age, with a booster dose at 12 to 15 months. Prices range from \$50 (single vaccine) to about \$95 (six-in-one vaccine).

**WHO NEEDS IT:** Children from two months to five years, especially those in daycare.

**SIDE EFFECTS:** Pain, redness or swelling at the injection site.

**EXPERT ADVICE:** Dr Menon says that before the Hib vaccine was introduced in the early 1990s, Hib was the most common cause of bacterial meningitis in many countries. It is now part of the routine immunisation schedule in many countries. ☺

Costs of vaccines are based on estimated quotations from public and private hospitals, polyclinics as well as family clinics.